BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	CC Docket No. 94-102
to Ensure Compatibility with	)	RM-8143
Enhanced 911 Emergency Calling	)	
Systems	)	

To: The Commission

COMMENTS OF TRW INC.

TRW Inc. ("TRW"), by its attorneys and pursuant to Sections 1.415 and 1.419 of the Commission's Rules, hereby comments on the Notice of Proposed Rulemaking in the above-captioned docket, FCC 94-237 (released October 19, 1994) ("Notice"). Specifically, although the Commission has not directly proposed to apply Enhanced 911 ("E-911") requirements to mobile-satellite service ("MSS") providers, TRW comments here to emphasize that such a step would be neither practical nor reasonable.

TRW has applied to the Commission for authority to construct Odyssey™, a constellation of twelve non-geostationary satellites in medium Earth orbit for the provision of MSS above 1 GHz. See Application of TRW Inc., File Nos. 20-DSS-P-91(12), CSS-91-015, 17-SAT-LA-95, 18-SAT-AMEND-95. It is envisioned that some commercial mobile radio service ("CMRS") providers may use MSS capacity offered by Odyssey™ in the provision of CMRS services.

In the Notice, the Commission proposes to adopt rules that would require wireless services, specifically CMRS providers who provide real-time voice services, to make E-911 services available to mobile radio customers to the same extent that such services will be made available to wireline customers. Notice, FCC 94-237, slip op. at ¶¶ 2, 37. In addition, Commission seeks comment regarding the categories of mobile radio services that should be subject to compatibility requirements with respect to E-911 service. Id. at ¶ 38.

TRW does not disagree with the Commission in its conclusion that broad access to 911 and E-911 services will promote the safety of life and property through the use of radio communications. However, the Commission should extend E-911 obligations only to terrestrial CMRS providers that provide local communications services, e.g., those services currently and to be provided by cellular providers and similar Personal Communications Services ("PCS"). For reasons expressed herein, the Commission should not impose E-911 requirements on MSS capacity providers or CMRS providers offering MSS capacity, unless they also provide local CMRS services.

Although the Commission has made no definitive statement concerning the scope of any E-911 requirement, it suggested that a limitation of such a requirement to CMRS providers offering real-time voice services might be appropriate. See Notice, FCC 94-237, slip op at ¶ 38. TRW agrees that mandatory E-911 compatibility should not be extended beyond the CMRS, i.e., those holding themselves out to the public as providing service indifferently to end consumers.

Under such a formulation, the requirements would not be applicable to MSS space segment providers under most circumstances. See Amendment of the Commissioner's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610-1626.5/2483.5-2500 MHz Frequency Bands, 9 FCC Rcd 5936, 6002-04 (¶¶ 177-179) (1994), ("Big LEO Report and Order"); see also Implementation of Sections 3(n) and 332 of the Communications Act, 9 FCC Rcd 1411, 1457-58 (1994), recon. pending.[1/] Because 911 services are used only by the ultimate end user/subscriber, only those who provide communications services to such end users, i.e., CMRS providers, should be required to implement E-911.

In addition, any requirement to provide E-911 capability should be applicable only to CMRS providers that offer service within local areas that have 911 dispatch capability. As a substantial segment of the ultimate users of MSS Above 1 GHz capacity are expected to be non-local to the CMRS provider, in the absence of complete standardization of E-911 protocols, there is no way to ensure that the call

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1/ As noted in the Commission's Notice, certain aspects of safety and distress communications requirements for MSS providers have been previously addressed by the Commission in the Big LEO proceeding. Big LEO Report and Order, 9 FCC Rcd at 6010 *et seq.* In that proceeding, the Commission required that Big LEO operators meet only certain obligations relating to maritime distress communications under Sections 321(b) and 359 of the Communications Act. 47 U.S.C. §§ 321(b), 359. Specifically the Commission stated that "[o]ther than these mandated requirements in the Act, we did not propose to require that MSS Above 1 GHz systems provide search and rescue or disaster response communications as a general service offering." Big LEO Report and Order, 9 FCC Rcd at 6010-11 (¶ 196). TRW has previously commented in favor of keeping mandatory obligations imposed upon MSS Above 1 GHz systems in this regard at the minimum levels specified in the Act. TRW Comments, CC Docket No. 92-166 at 194 (filed May 5, 1994).

will be processed locally. Moreover, the burden on the remote operator to facilitate proper transmission of the calls to local authority would be untenable.

The Commission has explicitly recognized that the "provision of emergency services is essentially local in nature." Notice, FCC 94-237, slip op. at ¶ 57. In a typical wireline E-911 environment, a 911 call is automatically routed over dedicated telephone lines by the local exchange carrier to the nearest Public Safety Answering Point ("PSAP"). The PSAP, using E-911 features such as automatic number identification ("ANI") and automatic location identification ("ALI"), then determines the nearest appropriate safety and rescue ("SAR") organization covering the location of the originating 911 call. ALI can also permit automatic selected routing of the 911 call to the nearest PSAP.

The focus of this E-911 service, therefore, is to achieve the shortest possible emergency response time by concentrating on accessing emergency service providers that are geographically as close to the location of the originating 911 call as possible. The essence of the paradigm is local and proximate. Local emergencies demand local responses.

The growth of local mobile radio services such as cellular radio has resulted in, and is likely to continue to result in, an increase in the number of 911 calls originated from mobile radio transmitters. See Notice, FCC 94-237, slip op. at ¶¶ 9, 10. Logic dictates that the public interest would be served by requiring E-911 services that would quickly route calls originating on local cellular and PCS services to PSAPs in the immediate vicinity of the transmitter. Such requirements would be

misplaced, however, if applied to either MSS space segment providers or to CMRS providers who offer their services solely through MSS systems.

Unlike terrestrial CMRS services, which are local systems, or groups of local systems aggregated to provide regional services, CMRS services offered through MSS systems will be inherently global in scope. A caller accessing Odyssey™ is not within a fixed radius of a cellular receiving station; he or she could be anywhere on the face of the earth.[2/] Requiring E-911 capabilities for these types of systems would be unreasonable.[3/]

TRW notes that the impracticability of requiring MSS operators to be E-911 compatible does not mean that users of Odyssey™ and other MSS systems will be without options. Makers of Odyssey™ handsets will typically include a dual-mode feature permitting users to access local cellular or PCS systems, as well as Odyssey™. For this reason, most system users would be able to access E-911 service, where available, by utilizing the interconnection of a local wireless service with the local wireline system.[4/] With these attributes in mind, a Commission decision not to impose E-911 obligations on CMRS providers using MSS would not defeat the objectives stated in this proceeding.

2/ TRW anticipates that the typical call originated or terminated on Odyssey™ within the U.S. will be long distance or transcontinental in nature.

3/ An injured man in Sri Lanka would derive no benefit from reaching a PSAP in Los Angeles.

4/ Those Odyssey™ handsets lacking dual-mode capability could be labelled with a warning indicating that E-911 access is not available. See, e.g., Notice, FCC 94-237, slip op. at ¶ 55.

Indeed, the particular implementation approach that the Commission proposes for E-911 is intrinsically geared to local wireless service providers. Initially, these providers would be required to determine the location of *the base station or cell site* receiving a 911 call. Notice, FCC 94-237, slip op. at ¶ 49. In the second stage, the base station or cell site would be capable of locating the approximate distance and direction of the mobile unit from *the base unit or cell site*. Id. at ¶ 50. In the final implementation stage, wireless service providers would be required to provide detailed, three dimensional information regarding *the location of a mobile unit within a radius of 125 meters*. Id. at ¶ 51. All of these requirements identify equipment or capabilities that are specific to local wireless systems.[5/] Although the Commission may require MSS Above 1 GHz transceivers to have limited position determination capabilities for purposes of protecting RAS observations, the protection radii required of MSS operators -- the smallest of which is 30 kilometers -- do not require the level of resolution proposed by the Commission for E-911.[6/] See 47 C.F.R.

5/ It is worth noting, for example, that the equivalent to the "base station" in an MSS system would be either a particular space station or a continental gateway, and that pinpointing such a location would be of little use in tracing the origination point of an emergency call.

6/ As noted above, the Commission has proposed that wireless operators be capable of locating the origin of a call within a three dimensional matrix within a radius of just 125 meters. Notice, FCC 94-237, slip op. at ¶ 51. Even if the Commission were to adopt such a requirement, TRW does not believe that such a level of resolution is technically feasible -- at least not on a meaningfully wide-spread basis. The Commission's proposed requirements are geared towards terrestrial services such as PCS and cellular, which have local base stations and cell sites that may be equipped with directional or sectored antennas. Id. at 49.

§ 25.213(a)(1). Thus, MSS systems could not be expected to meet the terrestrially-geared E-911 requirements proposed by the Commission.

Moreover, there are sound practical and technical reasons for declining to require global MSS systems to adhere to the E-911 protocols. Imposition of rigid E-911 interconnection and location information delivery protocols (such as ANI and ALI) is certain to be very expensive for a new satellite system, and is likely to be unduly costly. Imposition of such obligations would require MSS systems to comply with specific technical models and network protocols, which would result in considerable expense and technical burden to MSS providers, without any countervailing public benefit.[7/]

CONCLUSION

On the basis of the foregoing discussion, to the extent that E-911 compatibility requirements are adopted for wireless services in this proceeding, they should be imposed only upon local, terrestrial CMRS providers. The Commission

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7/ The interconnection between MSS systems generally, on one hand, and the wireline telephone system, on the other, will be through a limited number of continental gateways. Therefore, an E-911 call from an MSS handset in Aurora, Illinois might need to be routed, for example, through a gateway in Los Angeles, and over the wireline network back to the appropriate PSAP for Aurora. Such a route is far more cumbersome than simply using local wireless facilities.

should not impose any 911 requirements on MSS satellite systems or on CMRS providers that utilize space segment capacity on these systems, unless such CMRS providers also provide local CMRS services such as PCS or cellular radio.

Respectfully submitted,

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